

Title (en)  
PARAMAGNETIC TITANIUM MIXTURES AS VULCANIZATION CATALYSTS

Title (de)  
PARAMAGNETISCHE TITANMISCHUNGEN ALS VULKANISATIONSKATALYSATOREN

Title (fr)  
MÉLANGES DE TITANE PARAMAGNÉTIQUES EN TANT QUE CATALYSEURS DE VULCANISATION

Publication  
**EP 3498739 A1 20190619 (EN)**

Application  
**EP 17206701 A 20171212**

Priority  
EP 17206701 A 20171212

Abstract (en)  
The invention relates to a curable composition comprising a) at least one polymer having at least one silicon-containing group of formula (1)  $-\text{Si}(\text{R})(\text{Y})$  (1), wherein each R is independently selected from a hydrocarbon radical containing 1 to 20 C atoms or a triorganosiloxane group of formula  $-\text{O}-\text{Si}(\text{R})$ , wherein each R is independently selected from a hydrocarbon radical containing 1 to 20 C atoms; each Y is independently selected from a hydroxy group or a hydrolysable group; and k is 0, 1, or 2; b) at least one mixture of paramagnetic titanium complexes, characterized by a Landé g-factor of less than 2 detected by Electron Paramagnetic Resonance Spectroscopy; c) optionally, at least one compound which has a hydrolysable silicon-containing group and a molecular weight in the range of 100 to 1000 g/mol, preferably an aminosilane preparations containing these compositions thereof.

IPC 8 full level  
**C08F 4/64** (2006.01); **C08F 4/65** (2006.01); **C08L 83/06** (2006.01); **C09D 183/06** (2006.01); **C09J 183/06** (2006.01)

CPC (source: EP US)  
**C08G 77/08** (2013.01 - US); **C08G 77/16** (2013.01 - US); **C08G 77/18** (2013.01 - US); **C08G 77/20** (2013.01 - US); **C08K 5/56** (2013.01 - US); **C08L 83/06** (2013.01 - EP US); **C09D 183/06** (2013.01 - EP); **C09J 183/06** (2013.01 - EP); **C08K 2201/01** (2013.01 - US)

Citation (applicant)  
• US 4530882 A 19850723 - HOMAN GARY R [US], et al  
• US 5948854 A 19990907 - DE BUYL FRANCOIS [BE], et al  
• US 5286766 A 19940215 - ARAI MASATOSHI [JP], et al  
• EP 0520426 B1 19960403 - KANEGAFUCHI CHEMICAL IND [JP]  
• A. EARNSHAW; NORMAN GREENWOOD: "Chemistry of the Elements", pages: 972  
• WANG, Y; QIN, Y.; WANG, X.; WANG, F., ACS CATAL., vol. 5, 2015, pages 393 - 396  
• CHEMICAL ABSTRACTS, Columbus, Ohio, US; abstract no. 022984-54-9  
• CHEMICAL ABSTRACTS, Columbus, Ohio, US; abstract no. 16230-35-6  
• K. CLAUFT, JUSTUS LIEBIGS ANNALEN DER CHEMIE, vol. 711, 1968, pages 19 - 21  
• C. FERRERI: "Comprehensive Organic Synthesis", 1991, PERGAMON, pages: 139 - 172

Citation (search report)  
• [A] EP 3181613 A1 20170621 - HENKEL AG & CO KGAA [DE]  
• [A] EP 0810252 A1 19971203 - DOW CORNING [GB]  
• [XA] EP 0495375 A2 19920722 - DOW CHEMICAL CO [US]

Designated contracting state (EPC)  
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)  
BA ME

DOCDB simple family (publication)  
**EP 3498739 A1 20190619**; **EP 3498739 B1 20201021**; CA 3084286 A1 20190620; ES 2836252 T3 20210624; JP 2021505742 A 20210218; MX 2020006019 A 20200817; PL 3498739 T3 20210406; RU 2020122688 A 20220113; RU 2020122688 A3 20220324; US 11370916 B2 20220628; US 2020291186 A1 20200917; WO 2019115330 A1 20190620

DOCDB simple family (application)  
**EP 17206701 A 20171212**; CA 3084286 A 20181206; EP 2018083743 W 20181206; ES 17206701 T 20171212; JP 2020531977 A 20181206; MX 2020006019 A 20181206; PL 17206701 T 20171212; RU 2020122688 A 20181206; US 202016890994 A 20200602